



DAYLIGHT & SUNLIGHT

DAYLIGHT, SUNLIGHT AND
OVERSHADOWING REPORT

Holywell, Swords

Fingal County Council

27 September 2023

GIA No: **19909**

PROJECT DATA:

Client **Fingal County Council**
Architect **Henchion+Reuter Architects**
Project Title **Holywell, Swords**
Project Number **19909**

REPORT DATA:

Report Title **Daylight, Sunlight and Overshadowing Assessments**
GIA Department **Daylight Department**
Dated **27 September 2023**

Prepared by **ES**
Checked by **ML**
Type **Planning**

Revisions	No:	Date:	Notes:	Signed:

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SOURCES OF INFORMATION:

Information Received **IR-02-19909**
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3D models **Henchion+Reuter Architects**
OS Data **FIND Maps**



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1 EXECUTIVE SUMMARY

GIA has been instructed to provide a report to ascertain whether the Proposed Development will not only provide residential accommodation considered acceptable in terms of daylight, sunlight and overshadowing, but to also identify if any of the neighbouring residential properties are likely to experience a noticeable impact to their current levels of daylight and sunlight.

The Proposed Design by Henschion+Reuter Architects contains three pavilion blocks located to the northwest of Holywell. The Housing Department of Fingal County Council proposes to develop 57 apartments across the three blocks to meet social housing demand.

Conclusions on Impacts upon Neighbours

Two residential neighbouring properties have been identified as relevant for assessment, these are 1 Holywell Avenue and 24 Holywell Court.

In accordance with the BRE methodology, two neighbours have been assessed with reference to the 25° angle test on page 4 of this report. Further details of this methodology can be found in Appendix 2 of this report.

The measured angles illustrate that the new development should be considered to have an unlikely substantial effect on the diffuse skylight enjoyed by 24 Holywell Court, due to its separation distance, whereby no further testing is required.

1 Holywell Avenue does not strictly meet the 25° angle test and further detailed technical analysis of the property demonstrates that the potential impact upon daylight and sunlight meets the recommended BRE criteria.

Neither property is therefore considered to have its daylight and sunlight amenity noticeably affected by the Proposed Development.

Conclusions on Internal Daylight and Sunlight

In order to ascertain the levels of daylight within the Proposed Development, all habitable rooms in the 57 apartments have been assessed for illuminance using the spatial daylight autonomy (sDA) methodology. Further details of this methodology can be found in Appendix 3 of this report. In addition, the simulation assumptions used for the assessment can be found in Appendix 4.

The results given on pages 8-37 have shown that all 159 rooms see levels of sDA that either meet or exceed the recommendation for their room use set out in the UK National Annex to BS EN:17037. As such, all habitable rooms within the proposed development are considered well-daylit.

All 57 units proposed meet the sunlight criterion set out within BS EN:17037, 55 of which meet the sunlight recommendation on 21st March. The two units which fall short of the recommendation for 21st March but meet the recommendation for the alternative dates set out within BS EN:17037 do so due to their west-facing balconies obstructing higher-angle sunlight and letting lower-angle sunlight into the rooms with more ease in late February.

Overall therefore, the proposed development is considered to perform well in terms of internal daylight and sunlight levels.

Conclusions on Overshadowing

Sun Hours on Ground assessments have been undertaken for the areas of communal open space provided for future occupants and visitors to the proposed scheme. The results from these assessments are shown on page 38 of this report.

The technical assessments have shown that all three of the proposed communal open spaces meet the BRE criteria of two or more hours of direct sunlight within half of its area on 21st March.

GIA therefore conclude that the scheme provides future occupants and visitors to the site with good access to sunlit open spaces to enjoy throughout the year.

Overall Conclusions

Overall, we conclude that upon completion of the Proposed Development the neighbouring residential properties will not experience a noticeable impact to their current levels of daylight and sunlight, in line with the BRE recommendations.

In addition, the Proposed Development provides future occupants with well daylight and sunlit accommodation, along with excellent access to sunlight in the planned open spaces throughout the year.

2 DAYLIGHT & SUNLIGHT IMPACTS TO NEIGHBOURING PROPERTIES

This section details the daylight and sunlight impacts in relation to the relevant properties neighbouring the Site.

GIA have identified the following properties as relevant for daylight and sunlight assessment:

- 1 Holywell Avenue
- 24 Holywell Court

In accordance with the BRE methodology, both of the above properties have been assessed with reference to the 25° angle test.

It is clear from the image illustrated in Figure 01 below that the Proposed Development will sit comfortably below the profile of the 25° angle which emanates from the centre of the lowest window on the ground floor of 24 Holywell Court. Therefore, we can reasonably conclude that 24 Holywell Court will not require any further test for daylight and sunlight.

1 Holywell Avenue does not strictly meet the 25° angle test and therefore, further analysis of the property is necessary in order to understand the potential impact upon daylight and sunlight.

Where changes in daylight and sunlight occur, the impacts are discussed in the following paragraphs.

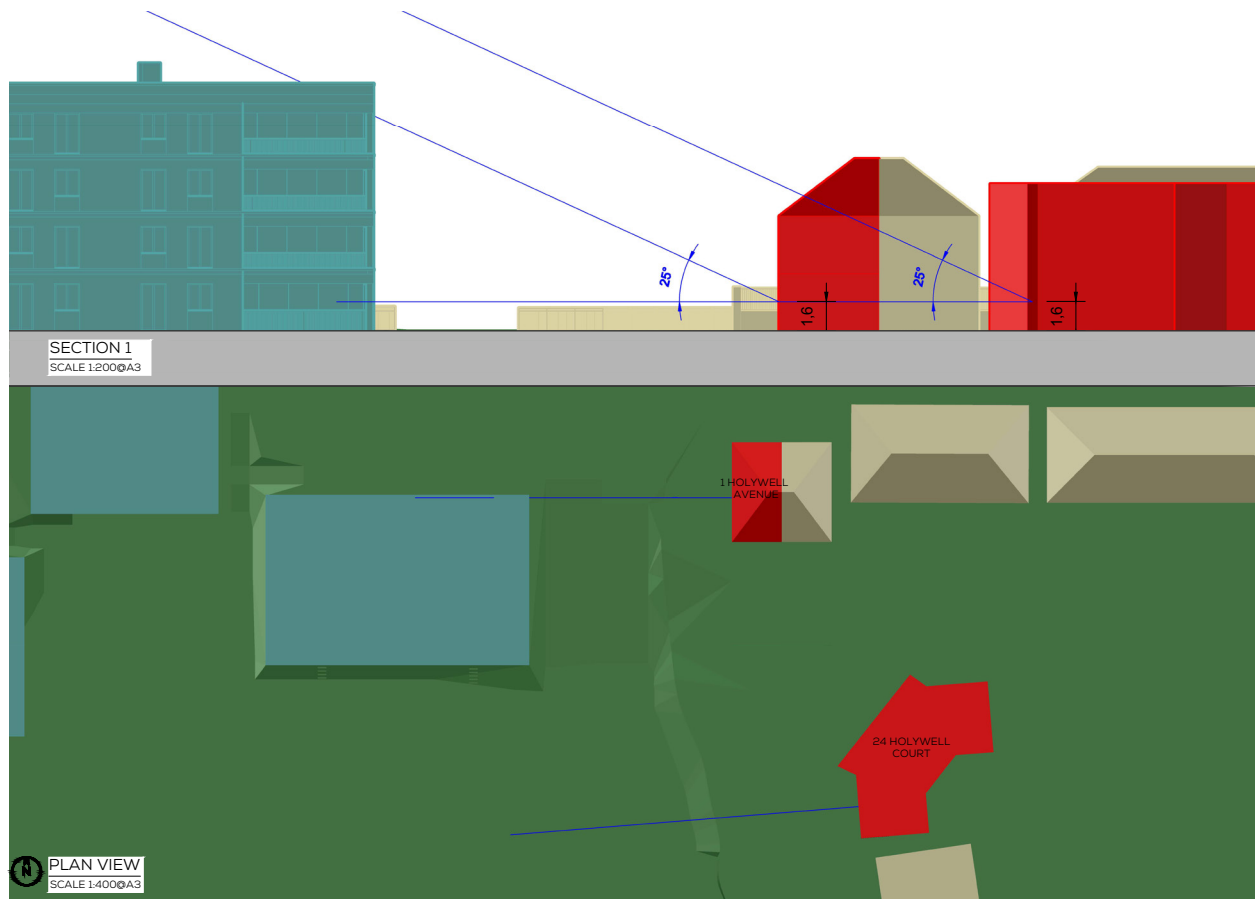


Fig. 01: 25 Degree Angle Test (1 Holywell Avenue and 24 Holywell Court)



Fig. 02: Aerial image showing the assessed 1 Holywell Avenue window location in red

1 Holywell Avenue

The two-storey residential property at 1 Holywell Avenue is located to the east of the Development Site. As this property does not strictly meet the 25° angle test, further analysis of the property is necessary in order to understand the potential impact upon daylight and sunlight.

When undertaking our technical analysis for this property, GIA have considered the first floor window/room overlooking the development site as relevant for assessment (see Figure 02). In the absence of detailed layouts, this window/room has been assumed.

When assessed against both daylight methodologies (VSC and NSL) the first floor window/room assessed will experience a change of less than 20% from the existing VSC and NSL value and will therefore meet BRE criteria (see Table 01).

Our technical analysis therefore demonstrates that both neighbouring properties will fully meet BRE criteria for daylight and sunlight.

Conclusion

In conclusion, the two residential neighbouring properties will not experience noticeable impacts to their daylight and sunlight levels as a consequence of the Proposed Development being built.

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	ROOM NOTES	WINDOW	VSC (WINDOW)				NSL			
						EX. %	PR. %	LOSS	LOSS %	EX. %	PR. %	LOSS SOM	LOSS %
1 HOLYWELL AVENUE SWORDS													
F01	R1	RESIDENTIAL	UNKNOWN		W1/F01	33.8	28.9	4.9	14.5%	85.9	85.9	0.0	0.0%

Table 01: 1 Holywell Avenue table of results

3 SITE OVERVIEW

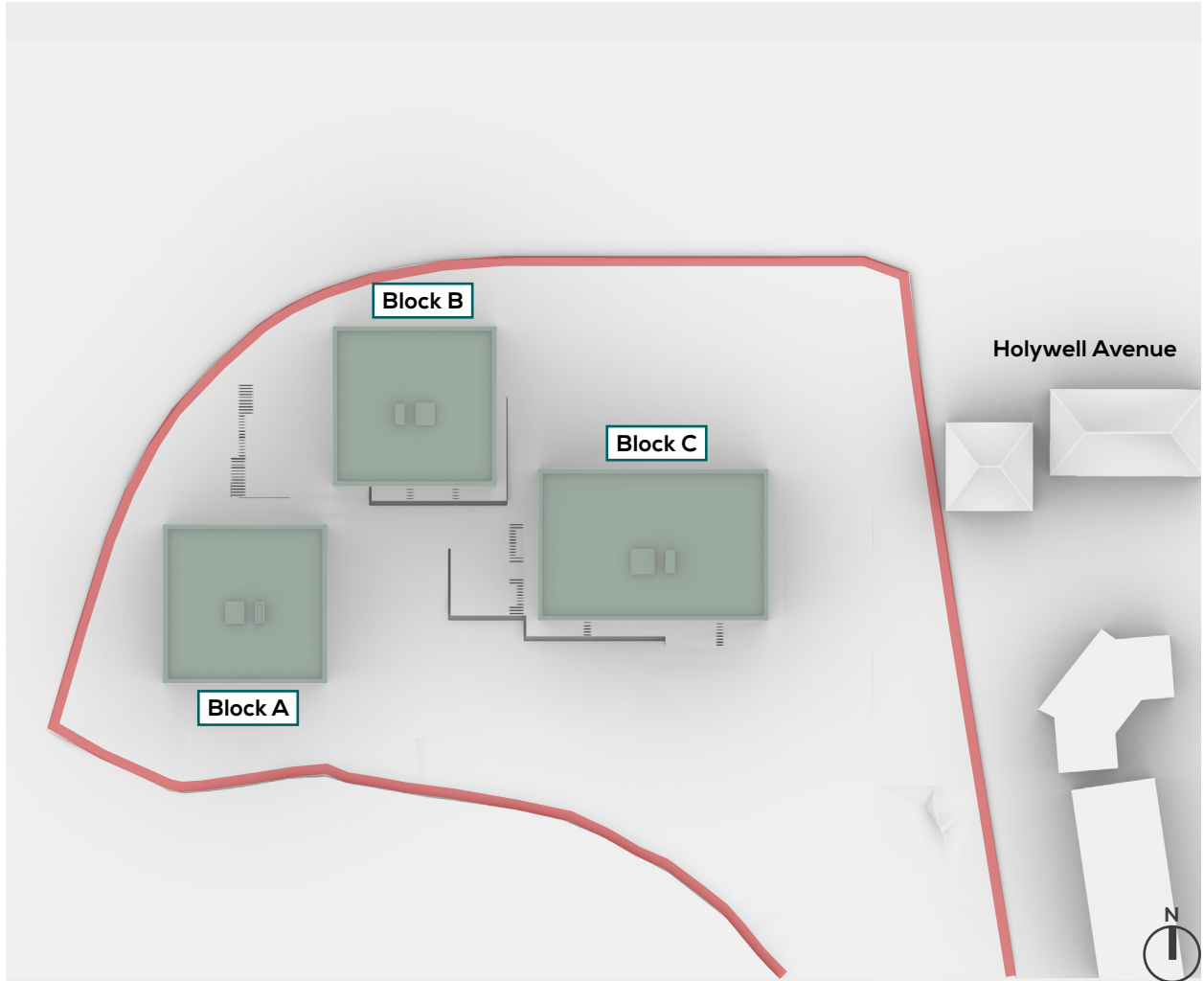


Fig. 03: Top view



Fig. 04: Perspective view

4 INTERNAL DAYLIGHT AND SUNLIGHT ASSESSMENTS

Block A

Ground Floor

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY percentage of room achieving target illuminance for 2190 hrs (50% of daylit hours) Weather File: IRL_Dublin				HOURS:MIN		
		100	150	200	TARGET	1 FEB	25 FEB	21 MAR

A - LEVEL 00

1	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00
2	L/K/D	100.0	100.0	100.0	200	00:44	01:46	02:37
3	BEDROOM	100.0	100.0	100.0	100	00:47	01:46	02:54
4	BEDROOM	100.0	100.0	100.0	100	00:52	01:46	02:54
5	L/K/D	100.0	100.0	100.0	200	07:44	07:52	07:40
6	L/K/D	100.0	100.0	100.0	200	07:45	08:16	08:05
7	BEDROOM	100.0	100.0	100.0	100	01:09	02:13	03:23
8	BEDROOM	100.0	100.0	100.0	100	01:09	02:13	03:23

Table 01: Assessment Data

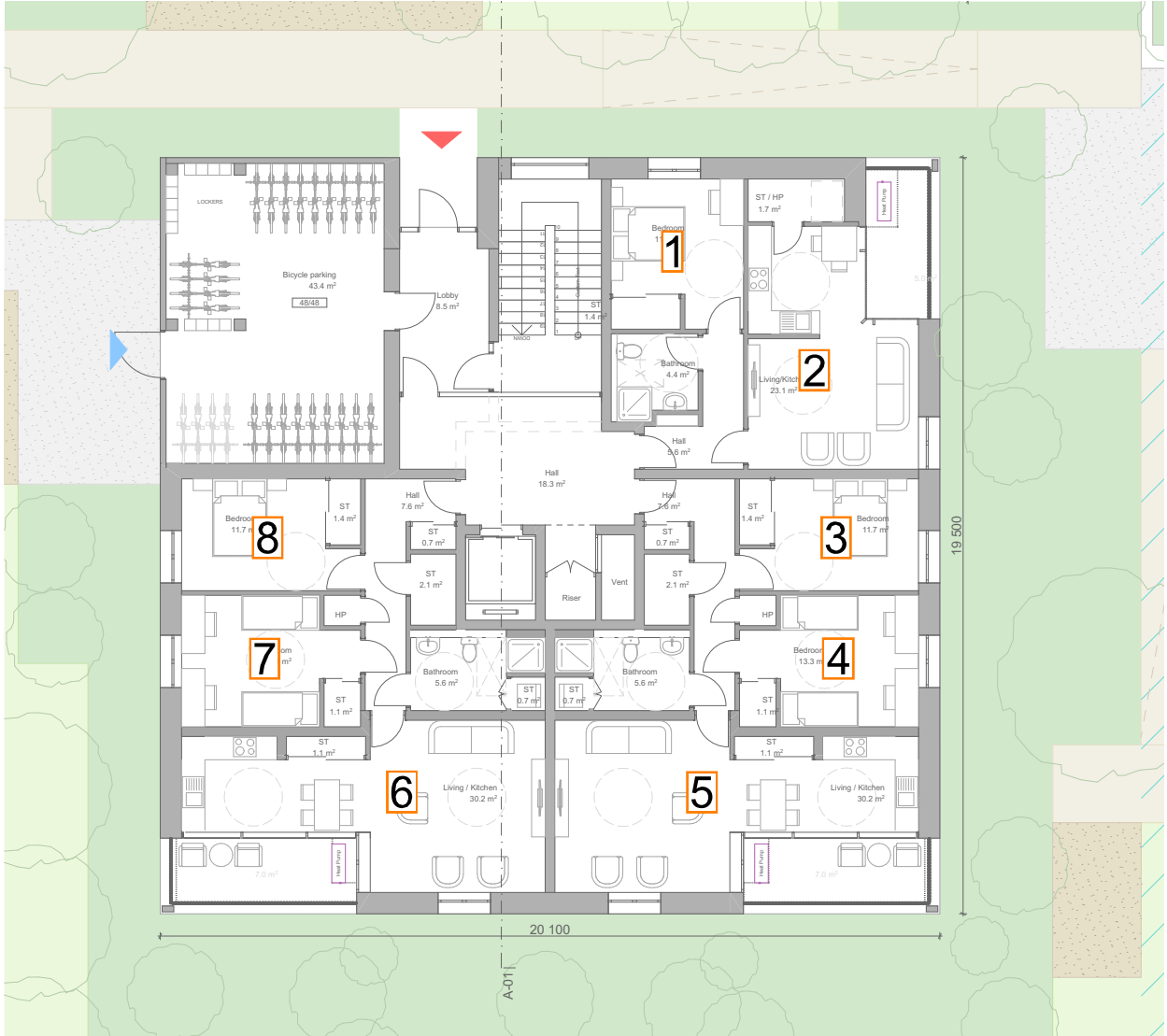
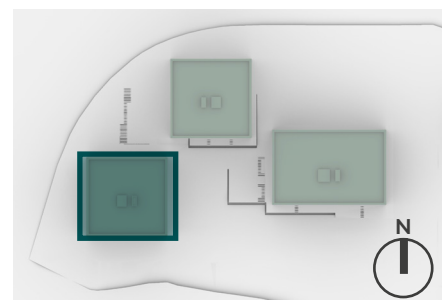


Fig. 05: Floor Plan



Block A
First Floor

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY percentage of room achieving target illuminance for 2190 hrs (50% of daylit hours) Weather File: IRL_Dublin				HOURS:MIN		
		100	150	200	TARGET	1 FEB	25 FEB	21 MAR
A - LEVEL 01								
9	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00
10	L/K/D	100.0	100.0	100.0	200	00:55	01:59	02:40
11	BEDROOM	100.0	100.0	99.5	100	00:55	01:59	03:04
12	BEDROOM	100.0	100.0	100.0	100	00:55	01:59	03:08
13	L/K/D	100.0	100.0	100.0	200	07:44	08:04	07:38
14	L/K/D	100.0	100.0	100.0	200	07:45	08:16	07:52
15	BEDROOM	100.0	100.0	100.0	100	01:09	02:13	03:23
16	BEDROOM	100.0	100.0	100.0	100	01:09	02:13	03:23
17	L/K/D	100.0	100.0	100.0	200	01:09	02:13	03:23
18	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00

Table 01: Assessment Data

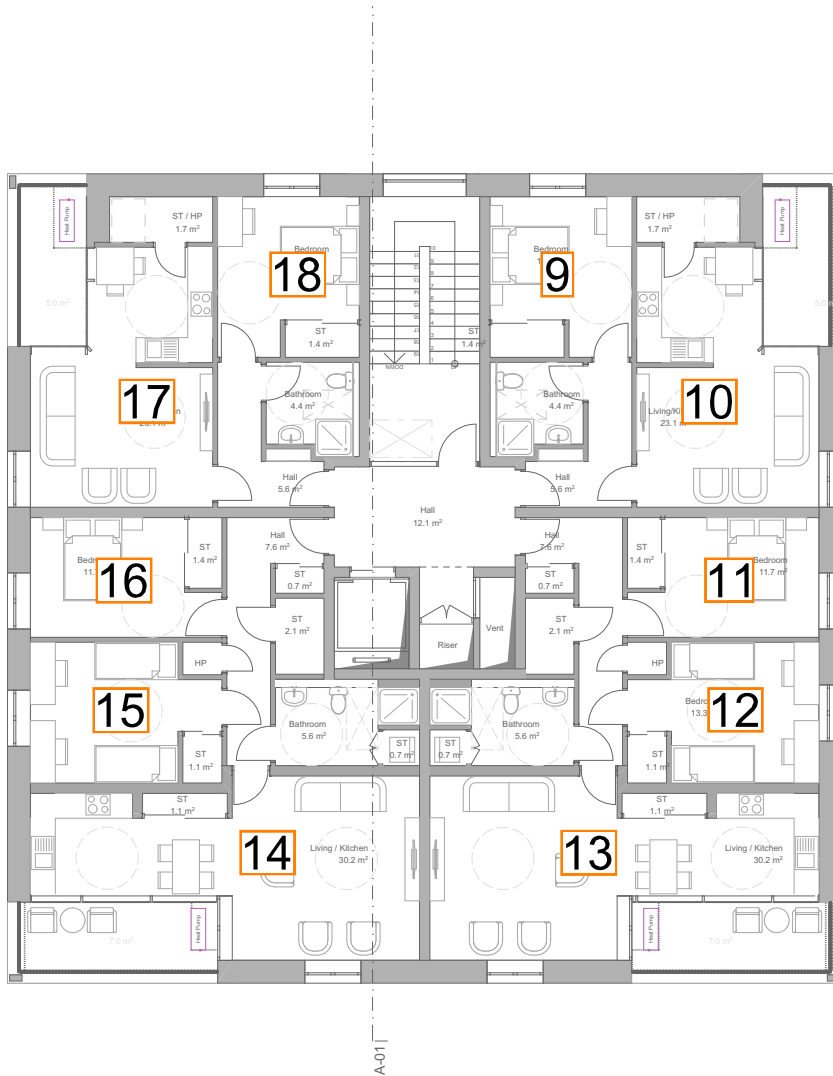
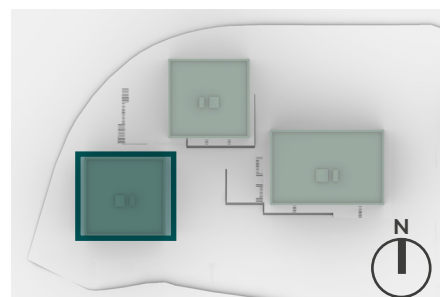


Fig. 06: Floor Plan



4 INTERNAL DAYLIGHT AND SUNLIGHT ASSESSMENTS (Continued)

Block A

Second Floor

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY percentage of room achieving target illuminance for 2190 hrs (50% of daylit hours) Weather File: IRL_Dublin				HOURS:MIN		
		100	150	200	TARGET	1 FEB	25 FEB	21 MAR
A - LEVEL 02								
19	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00
20	L/K/D	100.0	100.0	100.0	200	01:07	02:11	02:40
21	BEDROOM	100.0	100.0	100.0	100	01:07	02:11	03:04
22	BEDROOM	100.0	100.0	100.0	100	01:07	02:11	03:21
23	L/K/D	100.0	100.0	100.0	200	07:44	08:15	07:50
24	L/K/D	100.0	100.0	100.0	200	07:45	08:16	07:52
25	BEDROOM	100.0	100.0	100.0	100	01:09	02:13	03:23
26	BEDROOM	100.0	100.0	100.0	100	01:09	02:13	03:23
27	L/K/D	100.0	100.0	100.0	200	01:09	02:13	03:23
28	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00

Table 01: Assessment Data

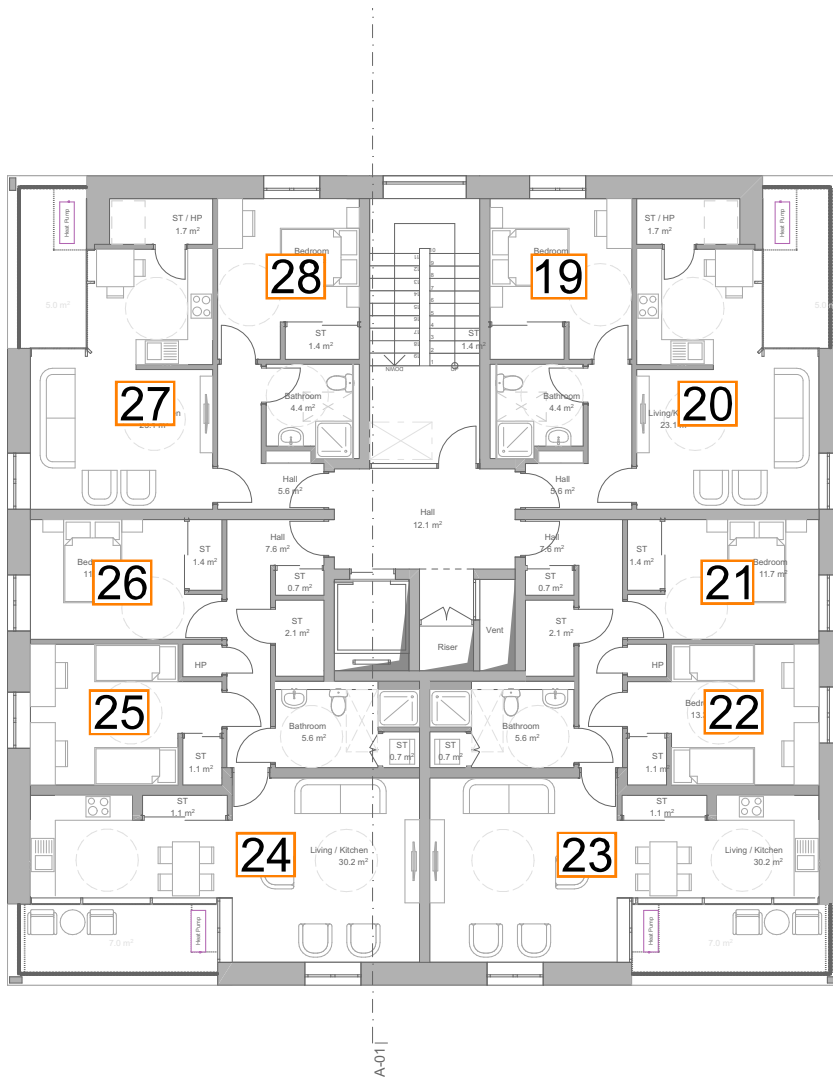
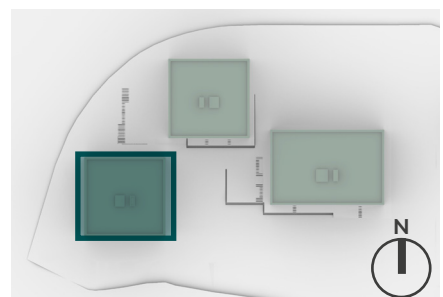


Fig. 07: Floor Plan



4 INTERNAL DAYLIGHT AND SUNLIGHT ASSESSMENTS (Continued)

Block A
Third Floor

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY percentage of room achieving target illuminance for 2190 hrs (50% of daylit hours) Weather File: IRL_Dublin				HOURS:MIN		
		100	150	200	TARGET	1 FEB	25 FEB	21 MAR
A - LEVEL 03								
29	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00
30	L/K/D	100.0	100.0	100.0	200	01:08	02:12	02:44
31	BEDROOM	100.0	100.0	100.0	100	01:08	02:12	03:04
32	BEDROOM	100.0	100.0	100.0	100	01:08	02:12	03:21
33	L/K/D	100.0	100.0	100.0	200	07:44	08:15	07:50
34	L/K/D	100.0	100.0	100.0	200	07:45	08:16	07:52
35	BEDROOM	100.0	100.0	100.0	100	01:09	02:13	03:23
36	BEDROOM	100.0	100.0	100.0	100	01:09	02:13	03:23
37	L/K/D	100.0	100.0	100.0	200	01:09	02:13	03:23
38	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00

Table 01: Assessment Data

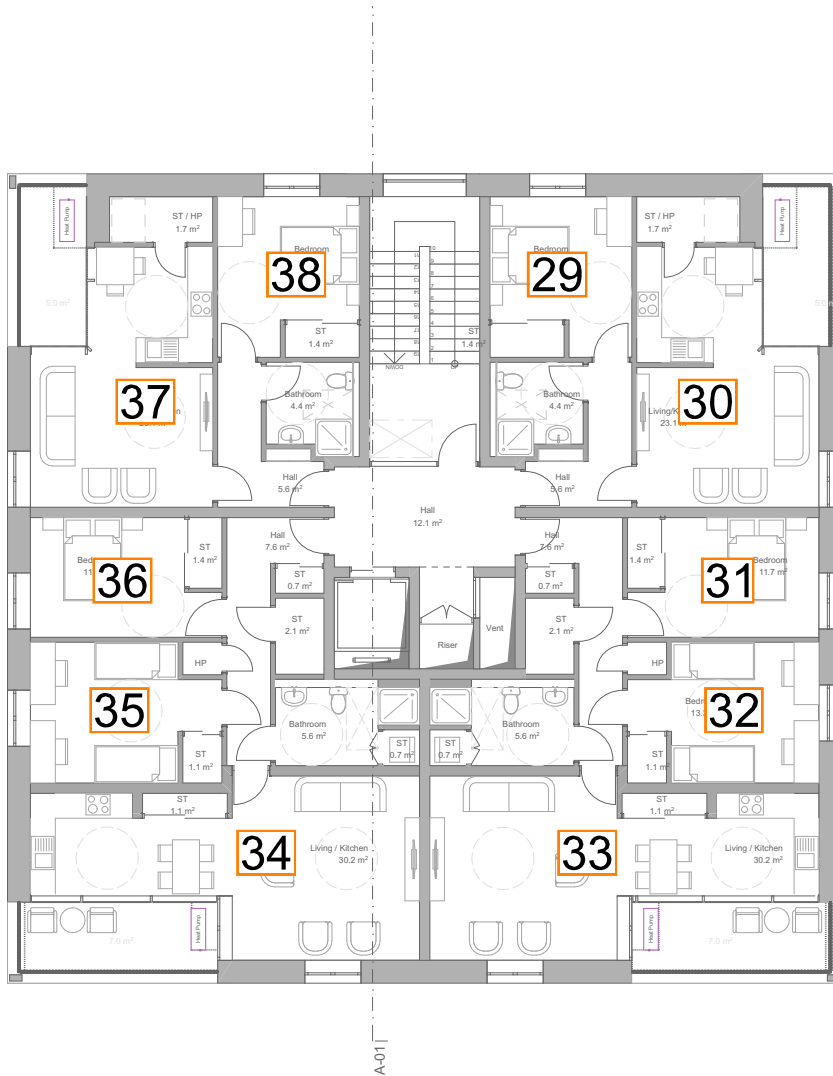
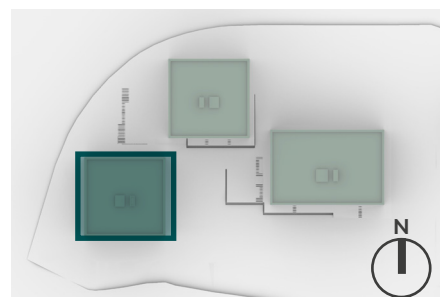


Fig. 08: Floor Plan



Block A
Fourth Floor

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY percentage of room achieving target illuminance for 2190 hrs (50% of daylit hours) Weather File: IRL_Dublin				HOURS:MIN		
		100	150	200	TARGET	1 FEB	25 FEB	21 MAR
A - LEVEL 04								
39	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00
40	L/K/D	100.0	100.0	100.0	200	01:08	02:12	03:21
41	BEDROOM	100.0	100.0	100.0	100	01:08	02:12	03:21
42	BEDROOM	100.0	100.0	100.0	100	01:08	02:12	03:21
43	L/K/D	100.0	100.0	100.0	200	07:44	08:15	07:50
44	L/K/D	100.0	100.0	100.0	200	07:45	08:16	07:52
45	BEDROOM	100.0	100.0	100.0	100	01:09	02:13	03:23
46	BEDROOM	100.0	100.0	100.0	100	01:09	02:13	03:23
47	L/K/D	100.0	100.0	100.0	200	01:09	02:13	03:23
48	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00

Table 01: Assessment Data

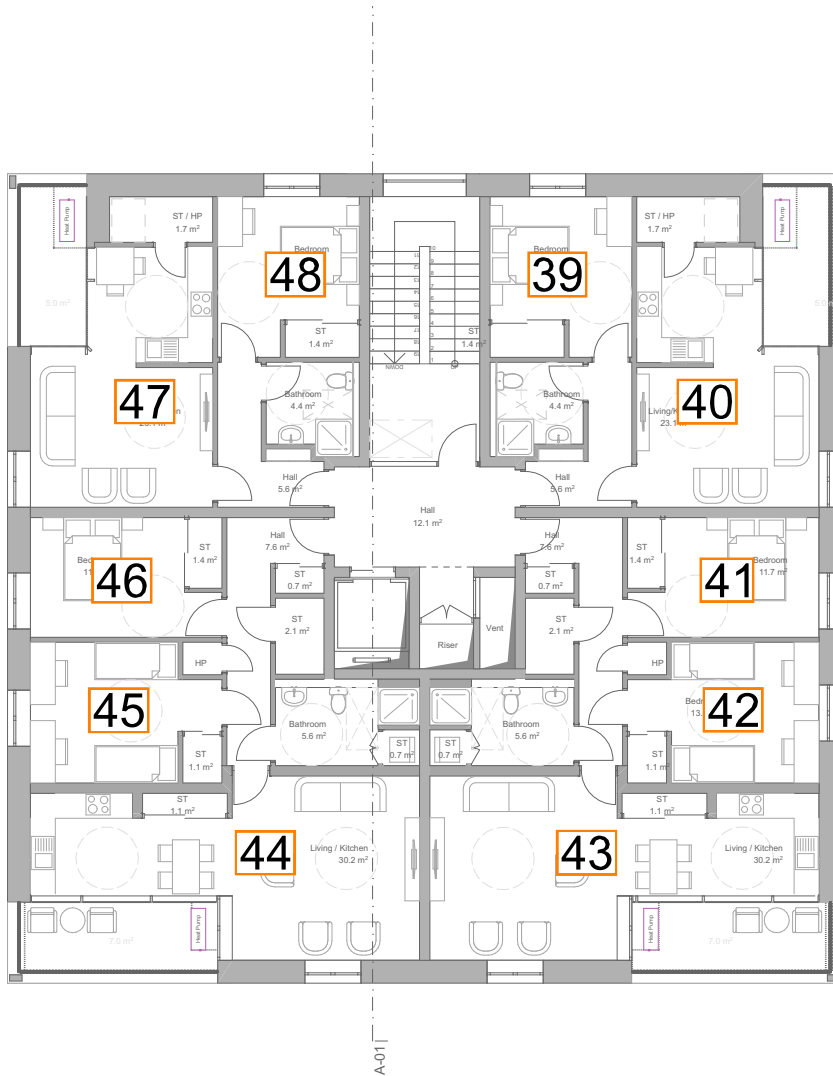
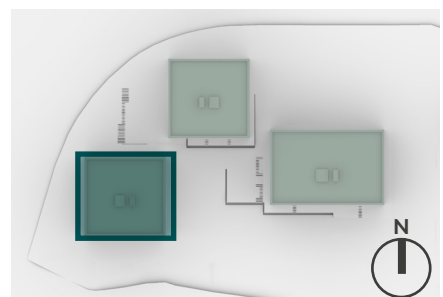


Fig. 09: Floor Plan



4 INTERNAL DAYLIGHT AND SUNLIGHT ASSESSMENTS (Continued)

Block B

Ground Floor

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY percentage of room achieving target illuminance for 2190 hrs (50% of daylit hours) Weather File: IRL_Dublin				HOURS:MIN		
		100	150	200	TARGET	1 FEB	25 FEB	21 MAR
B - LEVEL 00								
49	BEDROOM	100.0	100.0	97.9	100	00:00	00:00	00:17
50	BEDROOM	100.0	90.9	57.4	100	00:00	00:00	00:00
51	L/K/D	100.0	100.0	100.0	200	05:00	04:33	03:41
52	L/K/D	100.0	100.0	100.0	200	04:44	04:43	04:59
53	BEDROOM	100.0	100.0	89.1	100	00:00	01:00	02:09
54	BEDROOM	100.0	100.0	100.0	100	00:19	01:35	02:41
55	L/K/D	100.0	100.0	100.0	200	00:53	01:52	03:06
56	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00

Table 01: Assessment Data

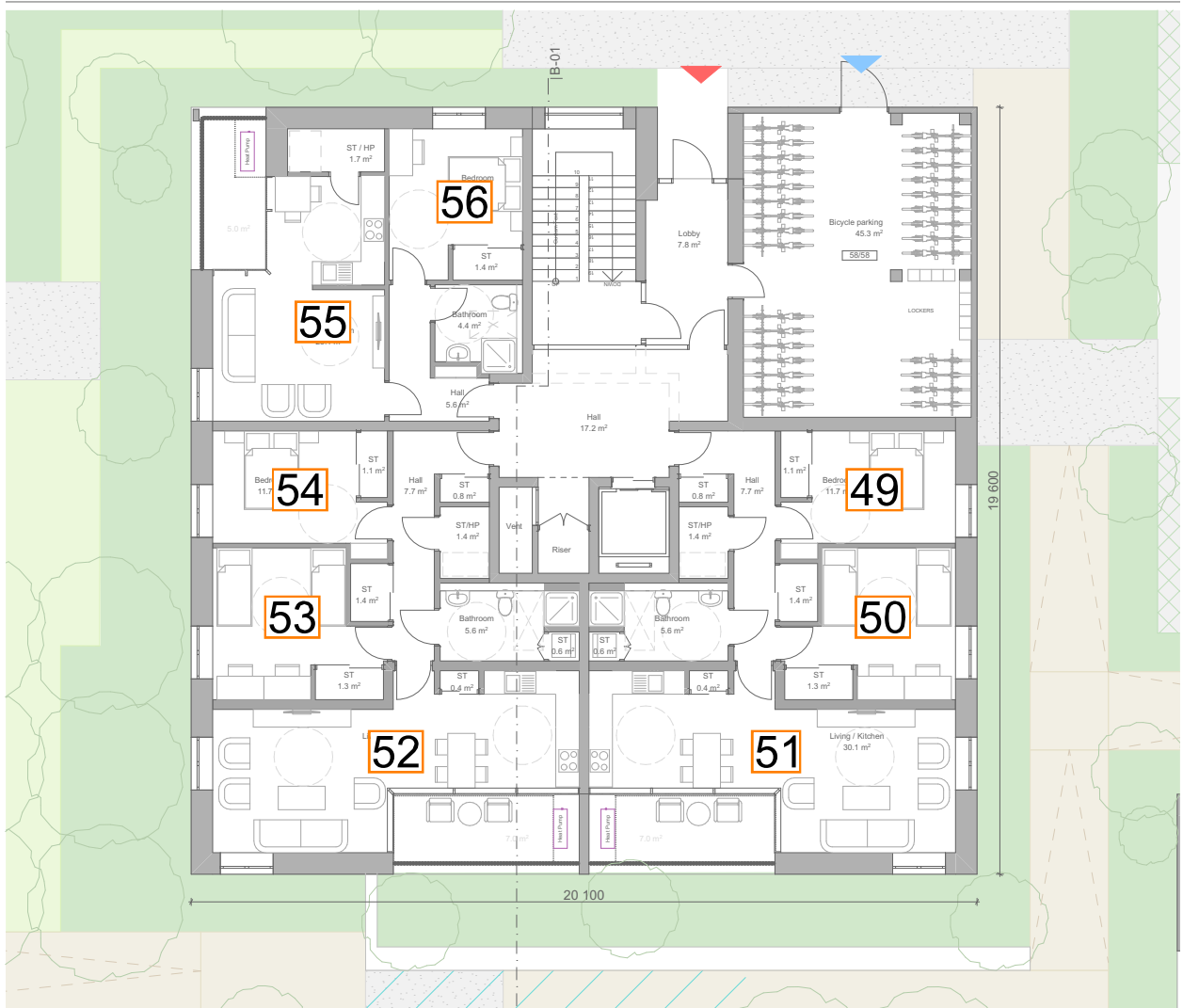
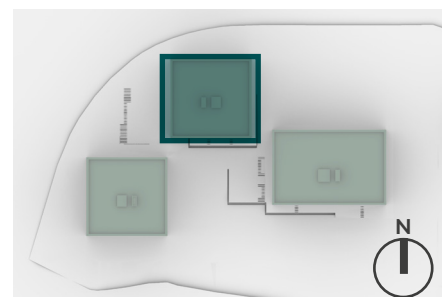


Fig. 10: Floor Plan



4 INTERNAL DAYLIGHT AND SUNLIGHT ASSESSMENTS (Continued)

Block B

First Floor

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY percentage of room achieving target illuminance for 2190 hrs (50% of daylit hours) Weather File: IRL_Dublin				HOURS:MIN		
		100	150	200	TARGET	1 FEB	25 FEB	21 MAR
B - LEVEL 01								
57	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00
58	L/K/D	100.0	100.0	100.0	200	00:00	00:27	02:24
59	BEDROOM	100.0	100.0	89.9	100	00:00	00:00	00:43
60	BEDROOM	100.0	97.8	64.3	100	00:00	00:00	00:07
61	L/K/D	100.0	100.0	100.0	200	05:02	04:31	04:32
62	L/K/D	100.0	100.0	100.0	200	04:44	04:48	05:04
63	BEDROOM	100.0	98.3	75.2	100	00:00	01:00	02:09
64	BEDROOM	100.0	100.0	100.0	100	00:20	01:35	02:41
65	L/K/D	100.0	100.0	100.0	200	00:53	01:51	03:49
66	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00

Table 01: Assessment Data

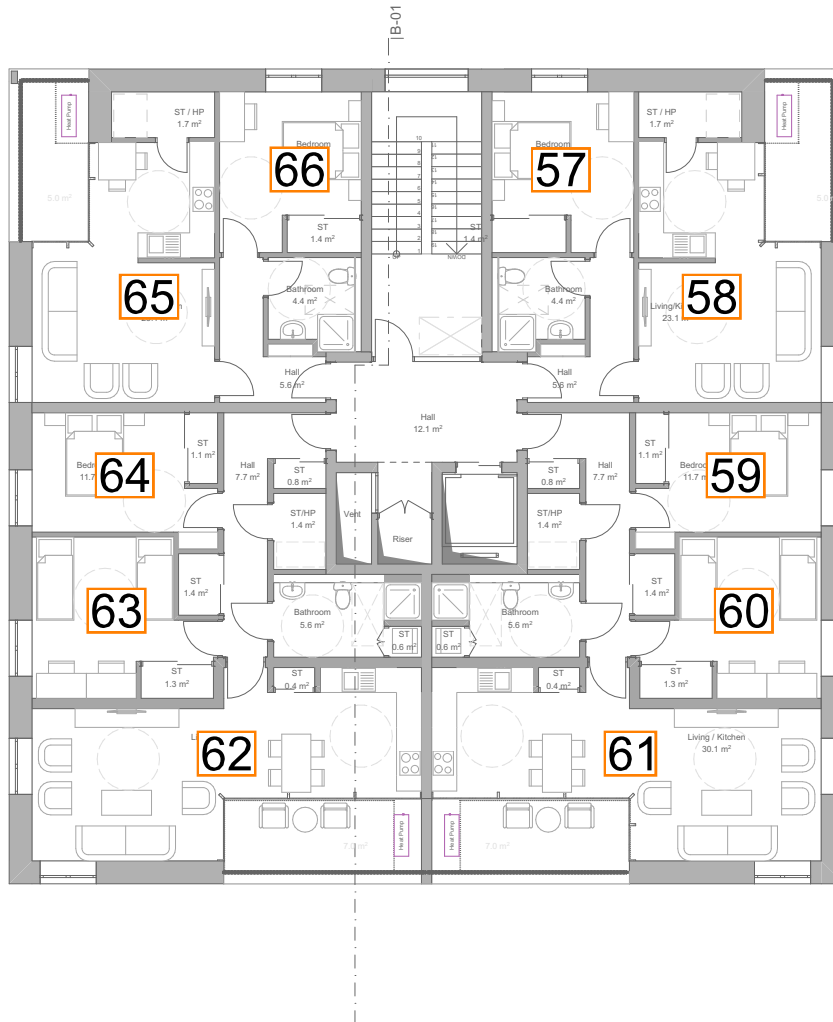
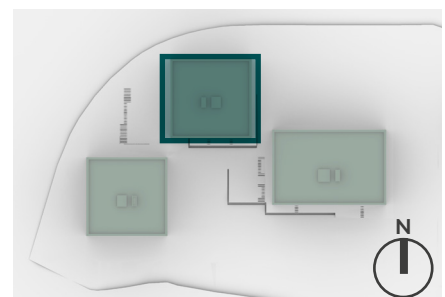


Fig. 11: Floor Plan



Block B

Second Floor

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY percentage of room achieving target illuminance for 2190 hrs (50% of daylit hours) Weather File: IRL_Dublin				HOURS:MIN		
		100	150	200	TARGET	1 FEB	25 FEB	21 MAR
B - LEVEL 02								
67	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00
68	L/K/D	100.0	100.0	100.0	200	00:00	00:34	03:47
69	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	01:01
70	BEDROOM	100.0	97.8	67.8	100	00:00	00:00	00:30
71	L/K/D	100.0	100.0	100.0	200	05:01	05:39	05:14
72	L/K/D	100.0	100.0	100.0	200	04:43	05:09	05:13
73	BEDROOM	100.0	100.0	95.7	100	00:00	01:00	02:09
74	BEDROOM	100.0	100.0	100.0	100	00:20	01:35	03:49
75	L/K/D	100.0	100.0	100.0	200	00:53	01:51	03:49
76	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00

Table 01: Assessment Data

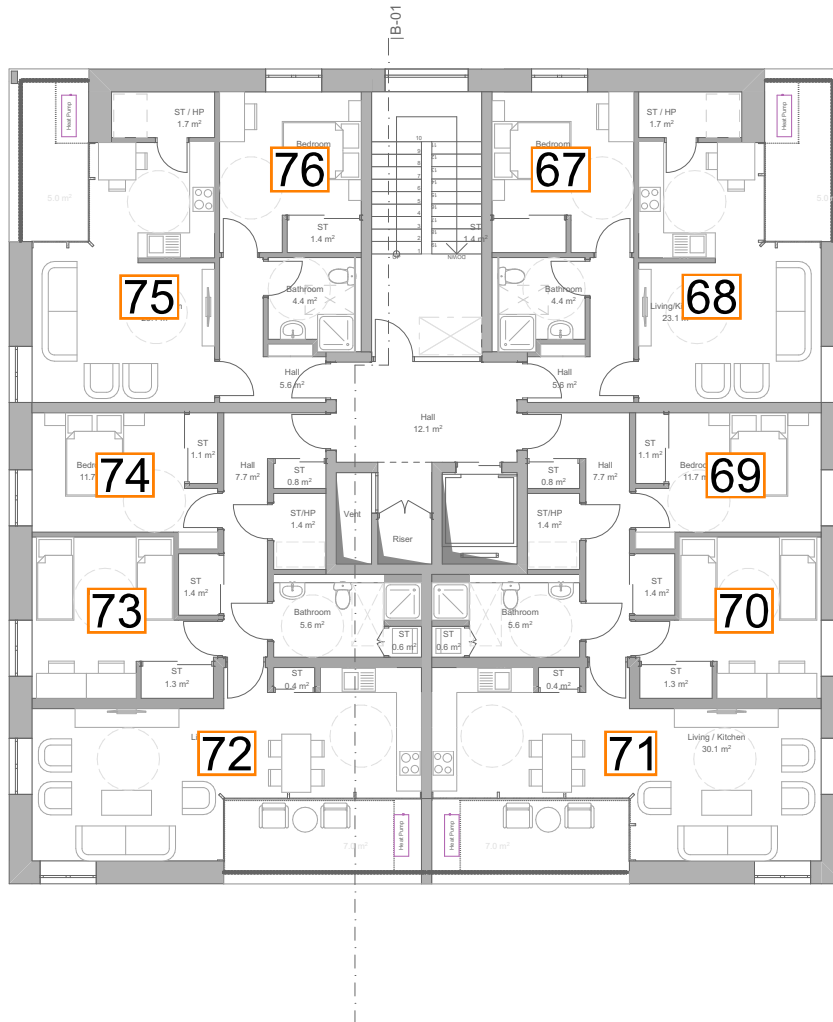
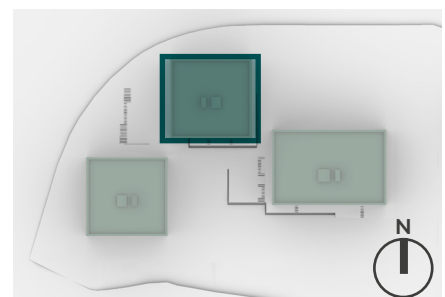


Fig. 12: Floor Plan



4 INTERNAL DAYLIGHT AND SUNLIGHT ASSESSMENTS (Continued)

Block B

Third Floor

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY percentage of room achieving target illuminance for 2190 hrs (50% of daylit hours) Weather File: IRL_Dublin				HOURS:MIN		
		100	150	200	TARGET	1 FEB	25 FEB	21 MAR
B - LEVEL 03								
77	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00
78	L/K/D	100.0	100.0	100.0	200	00:00	02:41	03:47
79	BEDROOM	100.0	100.0	100.0	100	00:00	01:14	03:47
80	BEDROOM	100.0	100.0	97.0	100	00:00	00:16	02:29
81	L/K/D	100.0	100.0	100.0	200	05:55	06:20	06:29
82	L/K/D	100.0	100.0	100.0	200	05:12	05:46	05:26
83	BEDROOM	100.0	100.0	92.2	100	00:00	01:00	03:49
84	BEDROOM	100.0	100.0	100.0	100	00:20	02:21	03:49
85	L/K/D	100.0	100.0	100.0	200	00:53	02:42	03:49
86	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00

Table 01: Assessment Data

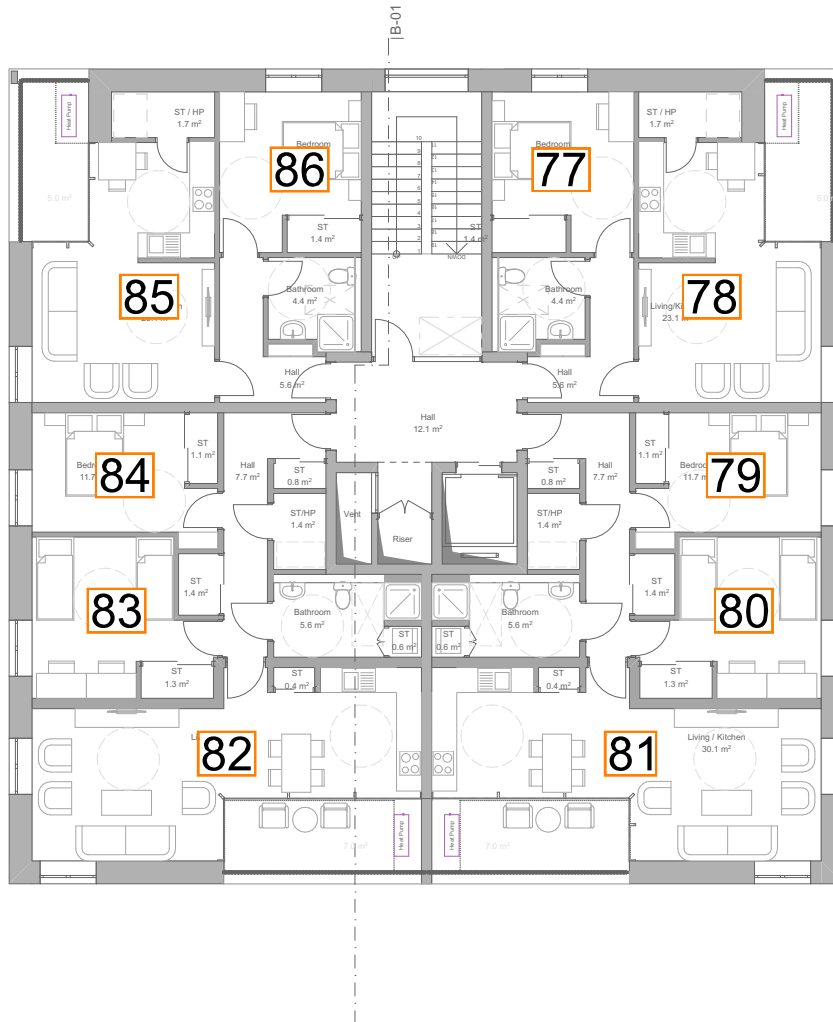
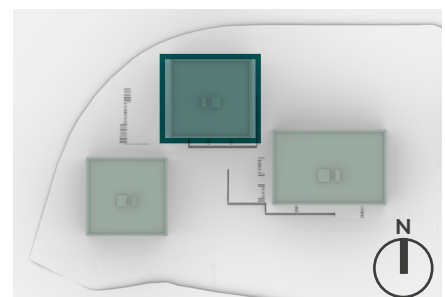


Fig. 13: Floor Plan



4 INTERNAL DAYLIGHT AND SUNLIGHT ASSESSMENTS (Continued)

Block B
Fourth Floor

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY percentage of room achieving target illuminance for 2190 hrs (50% of daylit hours) Weather File: IRL_Dublin				HOURS:MIN		
		100	150	200	TARGET	1 FEB	25 FEB	21 MAR
B - LEVEL 04								
87	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00
88	L/K/D	100.0	100.0	100.0	200	01:39	02:41	03:47
89	BEDROOM	100.0	100.0	100.0	100	01:39	02:41	03:47
90	BEDROOM	100.0	100.0	97.4	100	01:33	02:41	03:47
91	L/K/D	100.0	100.0	100.0	200	07:40	08:26	08:57
92	L/K/D	100.0	100.0	100.0	200	06:12	07:30	08:59
93	BEDROOM	100.0	100.0	100.0	100	00:00	02:42	03:49
94	BEDROOM	100.0	100.0	100.0	100	00:58	02:42	03:49
95	L/K/D	100.0	100.0	100.0	200	01:38	02:42	03:49
96	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00

Table 01: Assessment Data

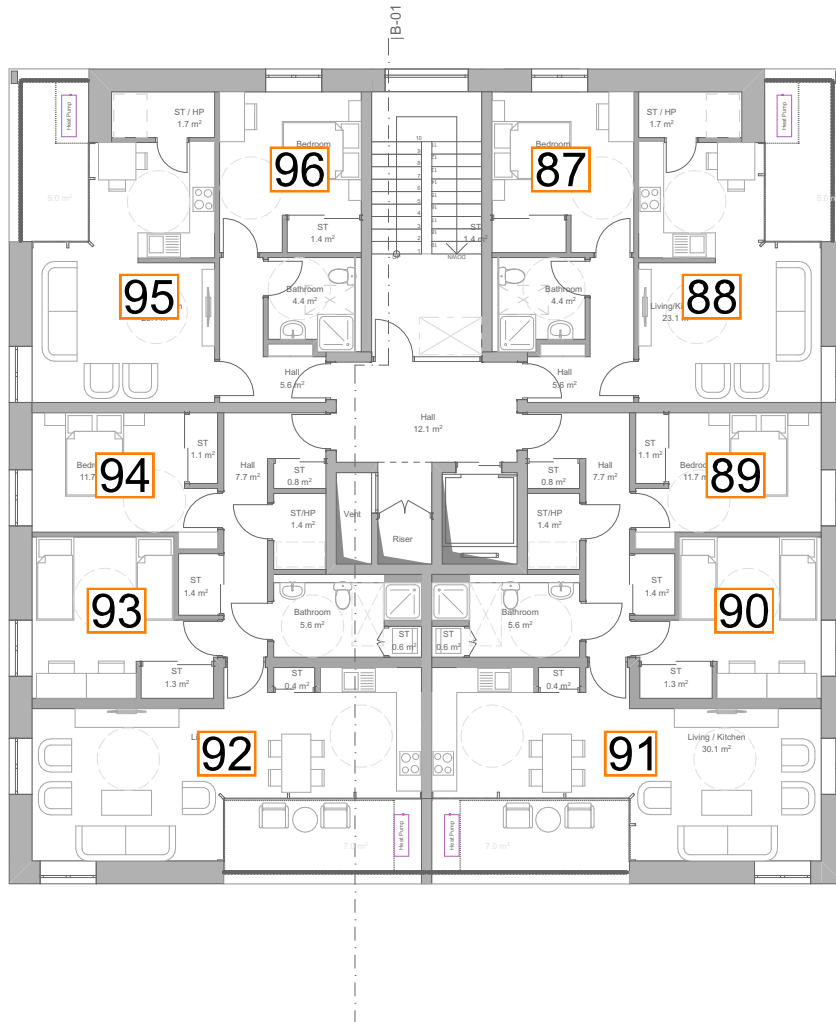
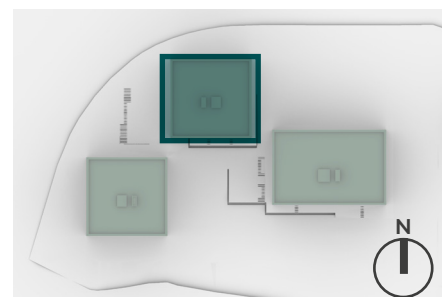


Fig. 14: Floor Plan



4 INTERNAL DAYLIGHT AND SUNLIGHT ASSESSMENTS (Continued)

Block B
Fifth Floor

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY percentage of room achieving target illuminance for 2190 hrs (50% of daylit hours) Weather File: IRL_Dublin				HOURS:MIN		
		100	150	200	TARGET	1 FEB	25 FEB	21 MAR
B - LEVEL 05								
97	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00
98	L/K/D	100.0	100.0	100.0	200	01:39	02:41	03:47
99	BEDROOM	100.0	100.0	100.0	100	01:39	02:41	03:47
100	BEDROOM	100.0	100.0	100.0	100	01:39	02:41	03:47
101	L/K/D	100.0	100.0	100.0	200	07:55	08:26	08:57
102	L/K/D	100.0	100.0	100.0	200	07:56	08:27	08:59
103	BEDROOM	100.0	100.0	99.1	100	01:40	02:42	03:49
104	BEDROOM	100.0	100.0	100.0	100	01:40	02:42	03:49
105	L/K/D	100.0	100.0	100.0	200	01:40	02:42	03:49
106	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00

Table 01: Assessment Data

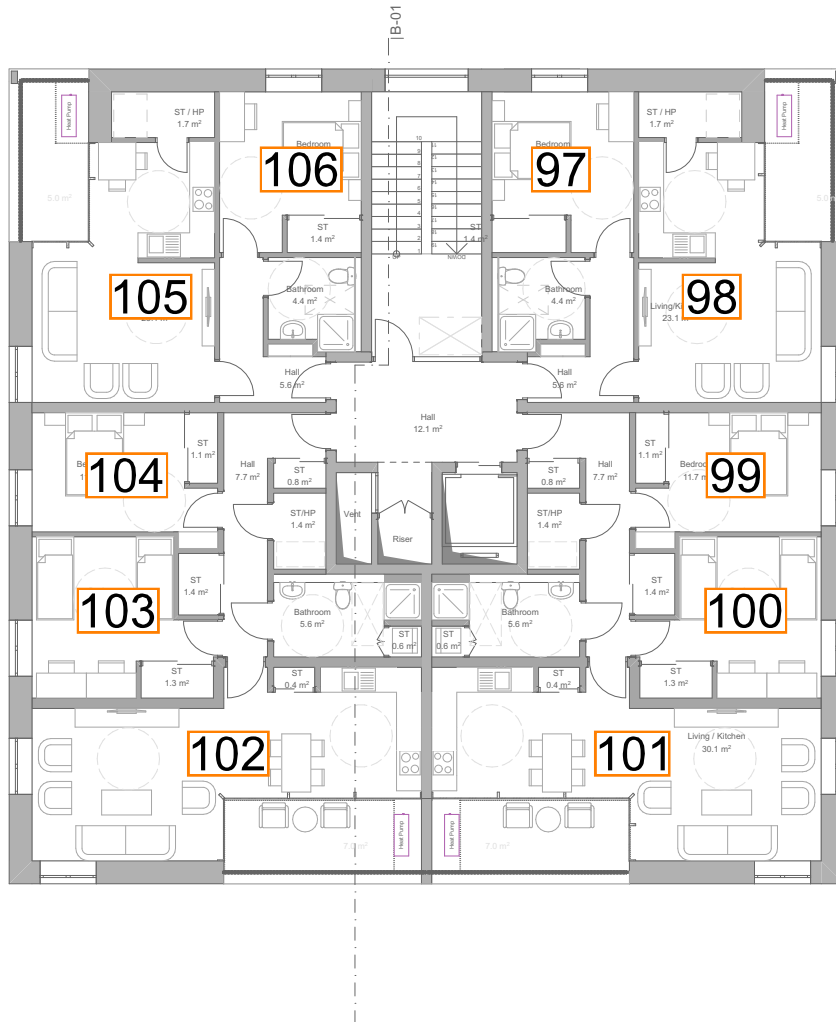
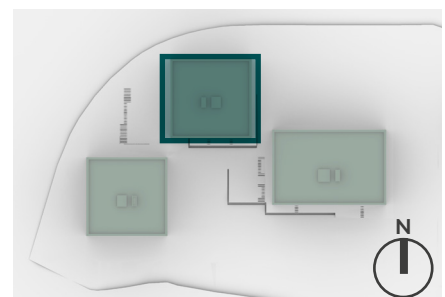


Fig. 15: Floor Plan



Block C
Ground Floor

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY percentage of room achieving target illuminance for 2190 hrs (50% of daylit hours) Weather File: IRL_Dublin				HOURS:MIN		
		100	150	200	TARGET	1 FEB	25 FEB	21 MAR
C - LEVEL 00								
107	BEDROOM	100.0	100.0	99.4	100	00:39	01:34	03:47
108	L/K/D	100.0	100.0	100.0	200	07:42	08:07	03:28
109	BEDROOM	100.0	100.0	100.0	100	07:07	06:33	05:53
110	BEDROOM	100.0	100.0	100.0	100	07:07	06:33	05:53
111	BEDROOM	100.0	100.0	100.0	100	07:07	06:33	05:53
112	BEDROOM	100.0	100.0	100.0	100	07:07	06:33	05:53
113	L/K/D	100.0	100.0	100.0	200	08:07	09:02	02:26
114	BEDROOM	100.0	100.0	100.0	100	01:37	01:30	01:22
115	L/K/D	100.0	100.0	100.0	200	02:17	01:34	01:06
116	BEDROOM	100.0	100.0	91.3	100	00:00	00:00	00:00
117	BEDROOM	100.0	100.0	94.0	100	00:00	00:00	00:00

Table 01: Assessment Data

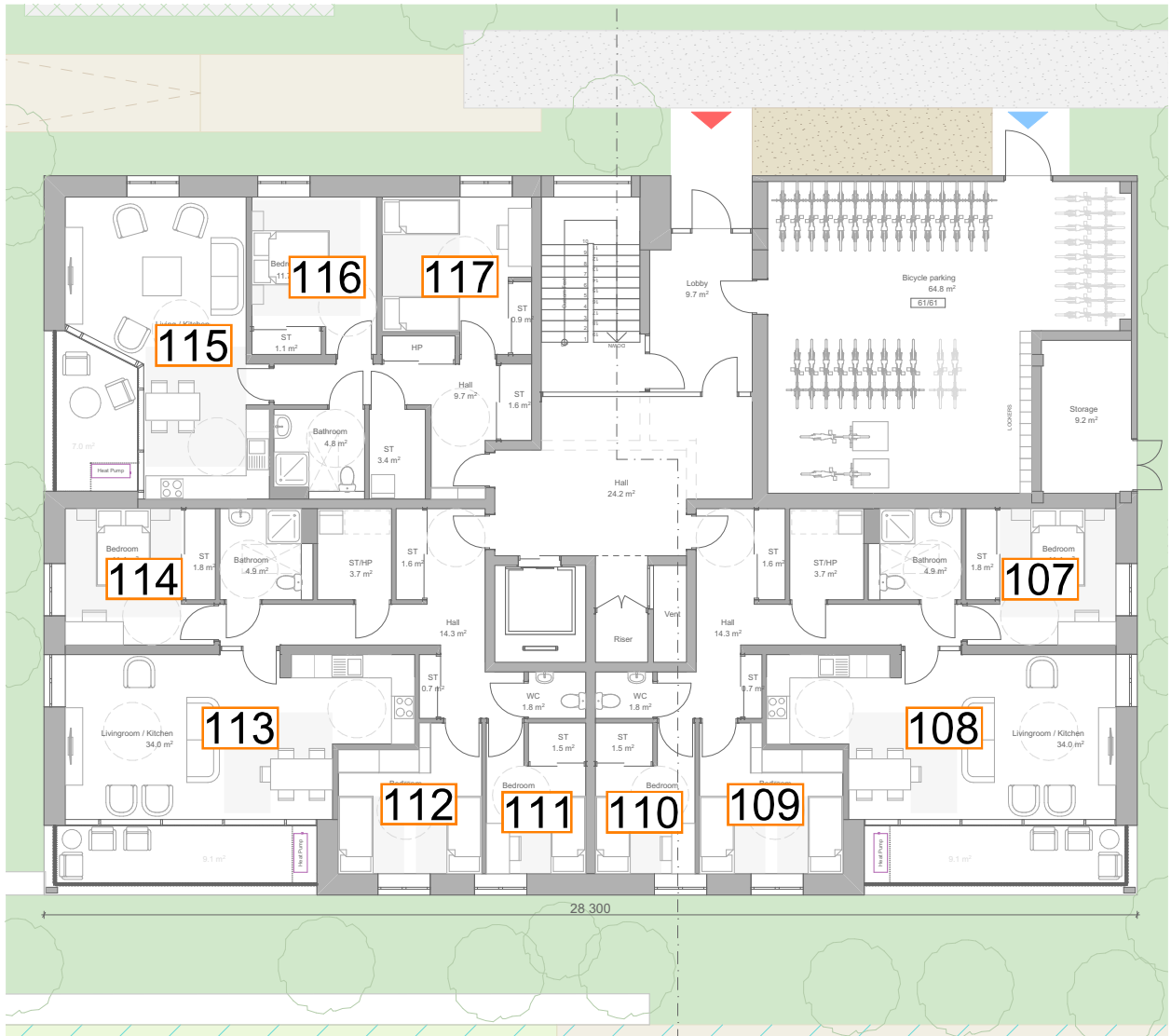
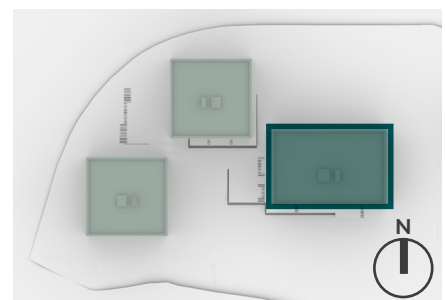


Fig. 16: Floor Plan



Block C

First Floor

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY percentage of room achieving target illuminance for 2190 hrs (50% of daylight hours) Weather File: IRL_Dublin				HOURS:MIN		
		100	150	200	TARGET	1 FEB	25 FEB	21 MAR

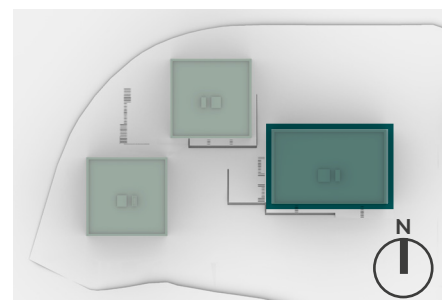
C - LEVEL 01

118	BEDROOM	100.0	100.0	92.3	100	00:00	00:00	00:00
119	BEDROOM	100.0	100.0	98.0	100	00:00	00:00	00:00
120	L/K/D	100.0	100.0	100.0	200	02:13	02:45	03:26
121	BEDROOM	100.0	100.0	100.0	100	01:06	02:06	03:47
122	L/K/D	100.0	100.0	100.0	200	08:10	08:36	03:47
123	BEDROOM	100.0	100.0	100.0	100	07:07	06:33	05:53
124	BEDROOM	100.0	100.0	100.0	100	07:07	06:33	05:53
125	BEDROOM	100.0	100.0	100.0	100	07:07	06:33	05:53
126	BEDROOM	100.0	100.0	100.0	100	07:07	06:33	05:53
127	L/K/D	100.0	100.0	100.0	200	08:25	09:02	02:06
128	BEDROOM	100.0	100.0	100.0	100	01:37	01:30	01:21
129	L/K/D	100.0	100.0	100.0	200	02:09	01:20	01:24
130	BEDROOM	100.0	100.0	95.9	100	00:00	00:00	00:00
131	BEDROOM	100.0	97.0	79.5	100	00:00	00:00	00:00

Table 01: Assessment Data



Fig. 17: Floor Plan



4 INTERNAL DAYLIGHT AND SUNLIGHT ASSESSMENTS (Continued)

Block C

Second Floor

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY percentage of room achieving target illuminance for 2190 hrs (50% of daylit hours) Weather File: IRL_Dublin				HOURS:MIN		
		100	150	200	TARGET	1 FEB	25 FEB	21 MAR
C - LEVEL 02								
132	BEDROOM	100.0	99.6	91.9	100	00:00	00:00	00:00
133	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00
134	L/K/D	100.0	100.0	100.0	200	02:44	03:06	03:26
135	BEDROOM	100.0	100.0	100.0	100	01:36	02:38	03:47
136	L/K/D	100.0	100.0	100.0	200	08:37	09:05	03:47
137	BEDROOM	100.0	100.0	100.0	100	07:07	06:33	05:53
138	BEDROOM	100.0	100.0	100.0	100	07:07	06:33	05:53
139	BEDROOM	100.0	100.0	100.0	100	07:07	06:33	05:53
140	BEDROOM	100.0	100.0	100.0	100	07:07	06:33	05:53
141	L/K/D	100.0	100.0	100.0	200	08:42	09:02	02:07
142	BEDROOM	100.0	100.0	100.0	100	01:37	01:30	01:50
143	L/K/D	100.0	100.0	100.0	200	02:09	01:20	01:54
144	BEDROOM	100.0	100.0	93.4	100	00:00	00:00	00:00
145	BEDROOM	100.0	100.0	94.9	100	00:00	00:00	00:00

Table 01: Assessment Data

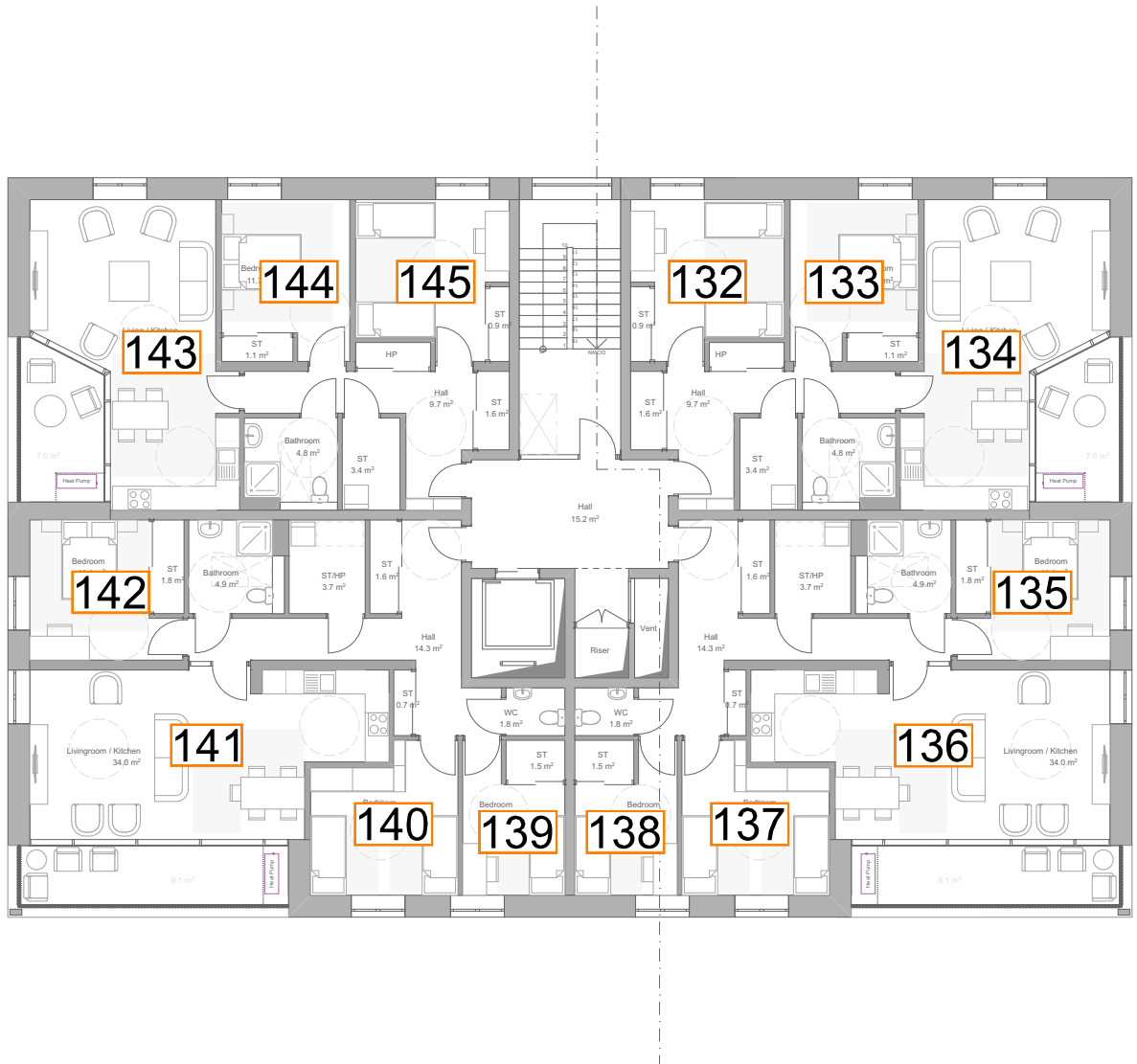
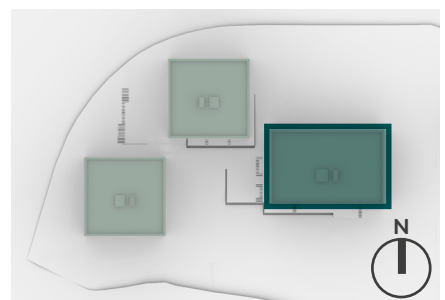


Fig. 18: Floor Plan



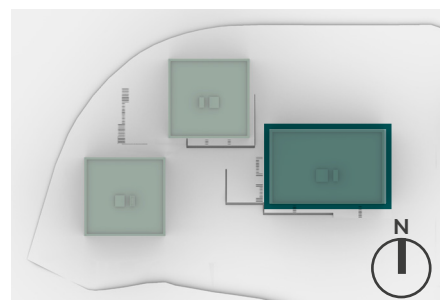
Block C
Third Floor

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY percentage of room achieving target illuminance for 2190 hrs (50% of daylit hours) Weather File: IRL_Dublin				HOURS:MIN		
		100	150	200	TARGET	1 FEB	25 FEB	21 MAR
C - LEVEL 03								
146	BEDROOM	100.0	100.0	96.6	100	00:00	00:00	00:00
147	BEDROOM	100.0	100.0	99.5	100	00:00	00:00	00:00
148	L/K/D	100.0	100.0	100.0	200	02:47	03:06	03:26
149	BEDROOM	100.0	100.0	100.0	100	01:39	02:41	03:47
150	L/K/D	100.0	100.0	100.0	200	08:40	09:08	03:47
151	BEDROOM	100.0	100.0	100.0	100	07:07	06:33	05:53
152	BEDROOM	100.0	100.0	100.0	100	07:07	06:33	05:53
153	BEDROOM	100.0	100.0	100.0	100	07:07	06:33	05:53
154	BEDROOM	100.0	100.0	100.0	100	07:07	06:33	05:53
155	L/K/D	100.0	100.0	100.0	200	08:42	09:02	02:36
156	BEDROOM	100.0	100.0	100.0	100	01:37	01:28	02:27
157	L/K/D	100.0	100.0	100.0	200	02:09	01:54	02:29
158	BEDROOM	100.0	100.0	100.0	100	00:00	00:00	00:00
159	BEDROOM	100.0	99.6	92.3	100	00:00	00:00	00:00

Table 01: Assessment Data

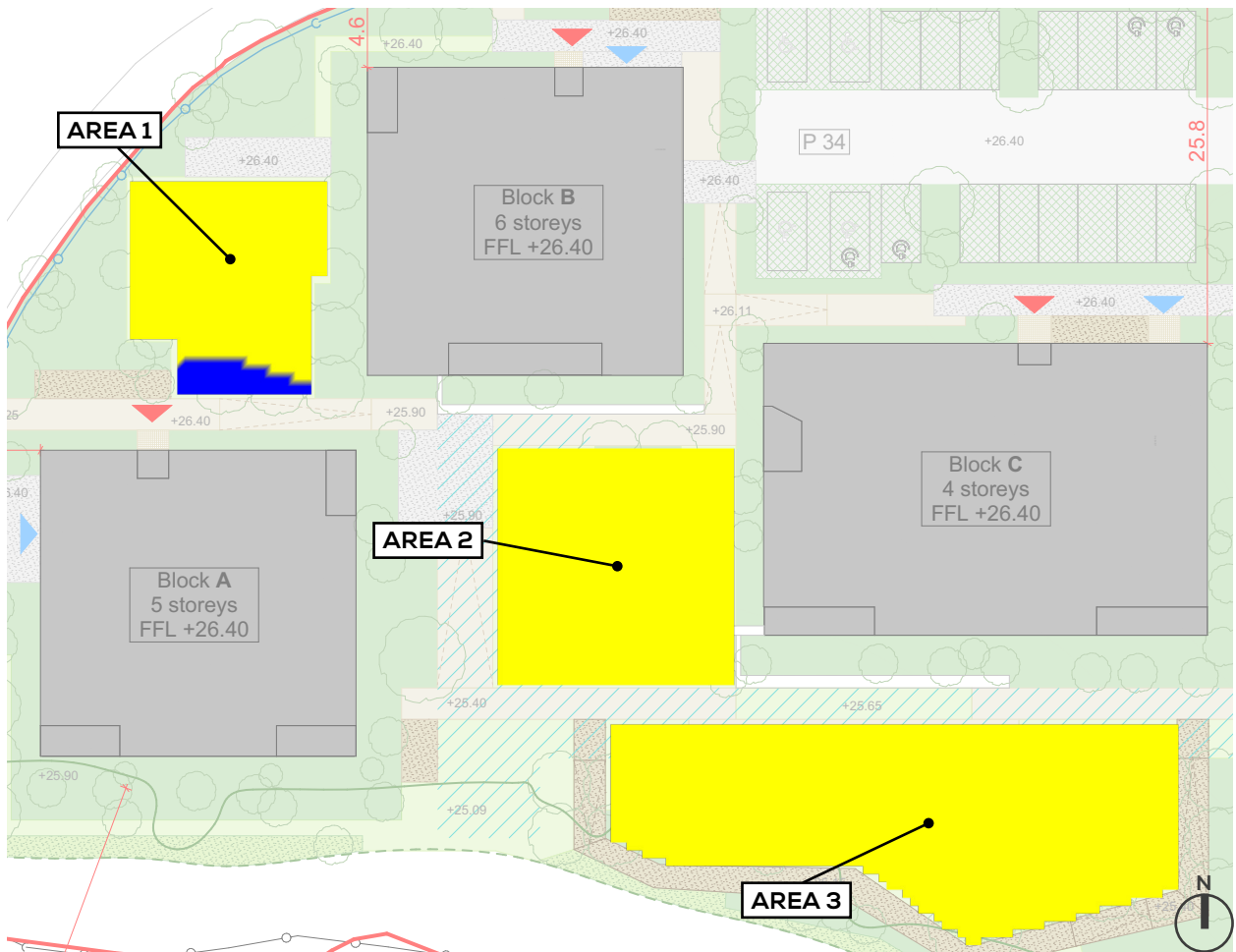


Fig. 19: Floor Plan



5 OVERSHADOWING ASSESSMENTS

OVERSHADOWING ASSESSMENT - OPEN SPACE SUN HOURS ON GROUND - BRE TEST



(BRE RECOMMENDS 2+ HOURS OF SUNLIGHT ON 21ST MARCH FOR AT LEAST 50% OF THE OPEN SPACE)

AREA 1: 89%
AREA 2: 100%
AREA 3: 100%

21st March
(SPRING EQUINOX)

DUBLIN

Latitude: 53.4
Longitude: -6.3
Sunrise: 06:25 GMT
Sunset: 18:40 GMT

SUN HOURS ON GROUND
BRE TEST - 21ST MARCH



Total Available Sunlight:
12hrs 15mins

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